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FIGURE 1

ATTCTCTTCATAATGCATGCTCTTTTGGTCATGCTGAAGTAGTCAATCTCCTTTTGGCAGATGGTGCAG 70  
I P L H N A C S F G H A E V V N L L L R H G A

ACCCCAATGCTCGAGATAATTGGAATTATACTCCTCTCCATGAAGCTGCAATTAAAGGAAAGATTGATGT 140  
D P N A R D N W N Y T P L H E A A I K G K I D V

TTGCATTGTGCTGTTACAGCATGGAGCTGAGCCAACCATCCGAAATACAGATGGAAGGACAGCATTGGAT 210  
C I V L L Q H G A E P T I R N T D G R T A L D

TTAGCAGATCCATCTGCCAAAGCAGTGCTTACTGGTGAATATAAGAAAGATGAACTCTTAGAAAGTGCCA 280  
L A D P S A K A V L T G E Y K K D E L L E S A

GGAGTGGCAATGAAGAAAAATGATGGCTCTACTCACACCATTAAATGTCAACTGCCACGCAAGTGATGG 350  
R S G N E E K M M A L L T P L N V N C H A S D G

CAGAAAGTCAACTCCATTACATTTGGCAGCAGGATATAACAGAGTAAAGATTGTACAGCTGTTACTGCAA 420  
R K S T P L H L A A G Y N R V K I V Q L L L Q

CATGGACGTGATGTCCATGCTAAAGATAAAGGTGATCTGGTACCATTACACAATGCCTGTTCTTATGGTC 490  
H G R D V H A K D K G D L V P L H N A C S Y G

ATTATGAAGTAACTGAACTTTTGGTCAAGCATGGTGGCTGTGTAAATGCAATGGACTTGTGGCAATTCAC 560  
H Y E V T E L L V K H G G C V N A M D L W Q F T

TCCTCTTCATGAGGCAGCTTCTAAGAACAGGGTTGAAGTATGTTCTCTCTCTTAAGTTATGGTGCAGAC 630  
P L H E A A S K N R V E V C S L L L S Y G A D

CCAACACTGCTCAATTGTAAGAATAAAAGTGCTATAGACTTGGCTCCACACCACAGTTAAAGAAAGAT 700  
P T L L N C K N K S A I D L A P T P Q L K E R

TAGCATATGAATTTAAAGGCCACTCGTTGCTGCAAGCTGCACGAGAAGCTGATGTTACTCGAATCAAAAA 770  
L A Y E F K G H S L L Q A A R E A D V T R I K K

ACATCTCTCTCTGGAATGGTGAATTTCAAGCATCCTCAAACACATGAAACAGCATTGCATTGTGCTGCT 840  
H L S L E M V N F K H P Q T H E T A L H C A A

GCATCTCCATATCCCAAAAGAAAGCAATATGTGAACTGTTGCTAAGAAAAGGAGCAAACATCAATGAAA 910  
A S P Y P K R K Q I C E L L L R K G A N I N E

AGACTAAAGAATTCTTGACTCCTCTGCACGTGGCATCTGAGAAAGCTCATAATGATGTTGTTGAAGTAGT 980  
K T K E F L T P L H V A S E K A H N D V V E V V

GGTGAACATGAAGCAAAGGTTAATGCTCTGGATAATCTTGGTCAGACTTCTCTACACAGAGCTGCATAT 1050  
V K H E A K V N A L D N L G Q T S L H R A A Y

TGTGGTCATCTACAAACCTGCCGCTACTCCTGAGCTATGGGTGTGATCCTAACATTATATCCCTTCAGG 1120  
C G H L Q T C R L L L S Y G C D P N I I S L Q

GCTTTACTGCTTTACAGATGGGAAATGAAATGTACAGCAACTCCTCCAAGAGGGTATCTCATTAGGTAA 1190  
G F T A L Q M G N E N V Q Q L L Q E G I S L G N

TTCAGAGGCAGACAGACAATTGCTGGAAGCTGCAAAGGCTGGAGATGTCGAAACTGTAAAAAACTGTGT 1260  
S E A D R Q L L E A A K A G D V E T V K K L C

ACTGTTTACAGAGTGTCAACTGCAGAGACATTGAAGGGCGTCAGTCTACACCACTTCATTTTGCAGCTGGGT 1330  
T V Q S V N C R D I E G R Q S T P L H F A A G

ATAACAGAGTGTCCGTGGTGAATATCTGCTACAGCATGGAGCTGATGTGCATGCTAAAGATAAAGGAGG 1400  
Y N R V S V V E Y L L Q H G A D V H A K D K G G

CCTGTACCTTTGCACAATGCATGTTCTTACGGACATTATGAAGTTGCAGAACTTCTTGTAAACATGGA 1470  
L V P L H N A C S Y G H Y E V A E L L V K H G

GCAGTAGTTAATGTAGCTGATTTATGGAATTTACACCTTTACATGAAGCAGCAGCAAAAGGAAAATATG 1540  
A V V N V A D L W K F T P L H E A A A K G K Y

AAATTTGCAACTTCTGCTCCAGCATGGTGCAGACCCTACAAAAAAAACAGGGATGGAATACTCCTTT 1610  
E I C K L L L Q H G A D P T K K N R D G N T P L

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GGATCTTGTAAAGATGGAGATACAGATATTCAAGATCTGCTTAGGGGAGATGCAGCTTTGCTAGATGCT 1680  
D L V K D G D T D I Q D L L R G D A A L L D A

GCCAAGAAGGGTTGTTTAGCCAGAGTGAAGAAGTTGTCTTCTCCTGATAATGTAAATTGCCGCGATACCC 1750  
A K K G C L A R V K K L S S P D N V N C R D T

AAGGCAGACATTCAACACCTTTACATTTAGCAGCTGGTTATAATAATTTAGAAAGTTGCAGAGTATTTGTT 1820  
Q G R H S T P L H L A A G Y N N L E V A E Y L L

ACAACACGGAGCTGATGTGAATGCCCAAGACAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTAC 1890  
Q H G A D V N A Q D K G G L I P L H N A A S Y

GGGCATGTAGATGTAGCAGCTCTACTAATAAAGTATAATGCATCTCTCAATGCCACGGACAAATGGGCTT 1960  
G H V D V A A L L I K Y N A S L N A T D K W A

TCACACCTTTGCACGAAGCAGCCCAAAAGGGACGAACACAGCTTTGTGCTTTGTTGCTAGCCCATGGAGC 2030  
F T P L H E A A Q K G R T Q L C A L L L A H G A

TGACCCGACTCTTAAAAATCAGGAAGGACAAACACCTTTAGATTTAGTTTCAGCAGATGATGTCAGCGCT 2100  
D P T L K N Q E G Q T P L D L V S A D D V S A

CTTCTGACAGCAGCCATGCCCCATCTGCTCTGCCCTCTTGTTACAAGCCTCAAGTCTCAATGGTGTGA 2170  
L L T A A M P P S A L P S C Y K P Q V L N G V

GAAGCCCAGGAGCCACTGCAGATGCTCTCTCTTCAGGTCCATCTAGCCCATCAAGCCTTCTGCAGCCAG 2240  
R S P G A T A D A L S S G P S S P S S L S A A S

CAGTCTTGACAACCTTATCTGGGAGTTTTTCAGAACTGTCTTCAGTAGTTAGTTCAAGTGGAACAGAGGGT 2310  
S L D N L S G S F S E L S S V V S S S G T E G

GCTTCCAGTTTGGAGAAAAAGGAGGTTCCAGGAGTAGATTTTAGCATAACTCAATTCGTAAGGAATCTTG 2380  
A S S L E K K E V P G V D F S I T Q F V R N L

GACTTGAGCACCTAATGGATATATTTGAGAGAGAACAGATCACTTTGGATGTATTAGTTGAGATGGGGCA 2450  
G L E H L M D I F E R E Q I T L D V L V E M G H

CAAGGAGCTGAAGGAGATTGGAATCAATGCTTATGGACATAGGCACAACTAATTAAGGAGTCGAGAGA 2520  
K E L K E I G I N A Y G H R H K L I K G V E R

CTTATCTCCGGACAACAAGGTCTTAACCCATATTTAACTTTGAACACCTCTGGTAGTGAACAATTCTTA 2590  
L I S G Q Q G L N P Y L T L N T S G S G T I L

TAGATCTGTCTCCTGATGATAAAGAGTTTCAGTCTGTGGAGGAAGAGATGCAAAGTACAGTTTCGAGAGCA 2660  
I D L S P D D K E F Q S V E E E M Q S T V R E H

CAGAGATGGAGGTCATGCAGGTGGAATCTTCAACAGATACAATATTCTCAAGATTGAGAAGGTTTGTAA 2730  
R D G G H A G G I F N R Y N I L K I Q K V C N

AAGAACTATGGGAAAGATACACTCACCAGGAGAAAAGAAGTTTCTGAAGAAAACCACAACCATGCCAATG 2800  
K K L W E R Y T H R R K E V S E E N H N H A N

AACGAATGCTATTTTCATGGGTCTCCTTTTGTGAATGCAATTATCCACAAAGGCTTTGATGAAAGGCATGC 2870  
E R M L F H G S P F V N A I I H K G F D E R H A

GTACATAGGTGGTATGTTTGGAGCTGGCATTATTTTGTGAAAACCTTCCAAAAGCAATCAATATGTA 2940  
Y I G G M F G A G I Y F A E N S S K S N Q Y V

TATGGAATTGGAGGAGGTACTGGGTGTCCAGTTCACAAAGACAGATCTTGTTACATTTGCCACAGGCAGC 3010  
Y G I G G G T G C P V H K D R S C Y I C H R Q

TGCTCTTTTGGCGGTAACCTTGGGAAAGTCTTTCCTGCAGTTCAGTGAATGAAAATGGCACATTCTCC 3080  
L L F C R V T L G K S F L Q F S A M K M A H S P

TCCAGGTCATCACTCAGTCACTGGTAGGCCAGTGTAATGGCCTAGCATTAGCTGAATATGTTATTTAC 3150  
P G H H S V T G R P S V N G L A L A E Y V I Y

AGAGGAGAACAGGCTTATCCTGAGTATTTAATTACTTACCAGATTATGAGGCCTGAAGGTATGGTCGATG 3220  
R G E Q A Y P E Y L I T Y Q I M R P E G M V D

GATAAATAGTTATTTTAAAGAACTAATTCCTGAACTGAACTCAATCAAGCAGCAGTGGCCTCTACGT 3290  
G \*

GTTTAACATTCTGACTTGATAAAGCTTTAATAATGTACAG

A

CONSTRUCT

STRUCTURE

N



C



N + C



FL



B

CONSTRUCT

MEAN RLU  
(LIQUID ASSAY)  
( $\times 10^3$ )

COLOUR INTENSITY  
(FILTER ASSAY)

pAS2.1

4

-

N

109

++

C

3

-

N + C

194

++

FL

242

+++

FIGURE 2